

T. & I. Eng. Lib.

COMPRESSED AIR MAGAZINE

DEVOTED TO THE USEFUL APPLICATIONS OF COMPRESSED AIR

Vol. xiv

DECEMBER, 1909

No. 12

Goodrich Hose

For Mechanical Use

**Air Drill Hose
Steam Hose
Pneumatic Tool Hose**

Distinguished by
The Mark



of Quality

Manufactured by
The B. F. Goodrich Company
AKRON, Ohio

CHICAGO PHILADELPHIA BOSTON ST. LOUIS DENVER DETROIT
KANSAS CITY MINNEAPOLIS PITTSBURG ATLANTA
CLEVELAND PARIS LONDON

Our Products are also handled in
NEW YORK by **BUFFALO**

THE B. F. GOODRICH COMPANY OF NEW YORK

SAN FRANCISCO

LOS ANGELES

SEATTLE

Published by THE COMPRESSED AIR MAGAZINE CO., Easton, Pa.
NEW YORK, Bowling Green Building LONDON, 165 Queen Victoria Street

Classified Buyers' Guide, Page 12. Index to Advertisers, Page 8.

Fiske Brothers Refining Company

NON-CARBONIZING OIL

FOR USE IN AIR CYLINDERS OF

AIR COMPRESSORS

Also All Grades of Lubricants for Use on Machinery Propelled
by Compressed Air

Office and Salesroom, 24 State Street, New York, U. S. A.

Cable Address:
"LUBROLEINE."

Sole Agents for Scotland:
JOHN MACDONALD & SON
GLASGOW, SCOTLAND

For the Lubrication of Air Compressors
OILS OF SUPERIOR QUALITY
Are Required.

"Aeroil" and "Paragon"

AIR COMPRESSOR OILS

Are Superior Oils.

AIR and STEAM
DRILL OILS

CYLINDER and VALVE
OILS

— MADE BY —

BORNE, SCRYMSER COMPANY

80 South Street, NEW YORK

BOSTON

FALL RIVER

PHILADELPHIA

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

WHO SAID CALLOW TANK? EVERYBODY!



THE CALLOW SETTLING AND PULP THICKENING TANK.

The last Callow Tank we shipped was numbered 1800. This means 1800 in use to-day. We shall certainly reach the 2000 mark this year. Nothing succeeds like success. The Callow Tank has been successful in every mining district in the world.

500 IN ONE PLANT

300 IN ANOTHER

200 IN ANOTHER

and some in every plant built in recent years.

WE CARRY THEM IN STOCK AND CAN SHIP PROMPTLY.

THE GALIGHER MACHINERY CO.

Successors to The Utah Mining Machinery & Supply Company

SALT LAKE CITY, UTAH, U. S. A.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

Sullivan Hammer Drills



Sullivan D-21 Drills in The La Rose Mine, Cobalt, Ont.

In narrow stopes at Cobalt, Sullivan D-21 Air Feed Hammer Drills are reducing ground-breaking cost from 35 to 50 per cent., as compared with piston drills on columns or bars.

These Drills are handled by one man, and may be operated in any stope or raise which a man can enter.

Bulletin 960-A

**Rock Drills, Air Compressors
Diamond Drills, Channelers**

Sullivan Machinery Company

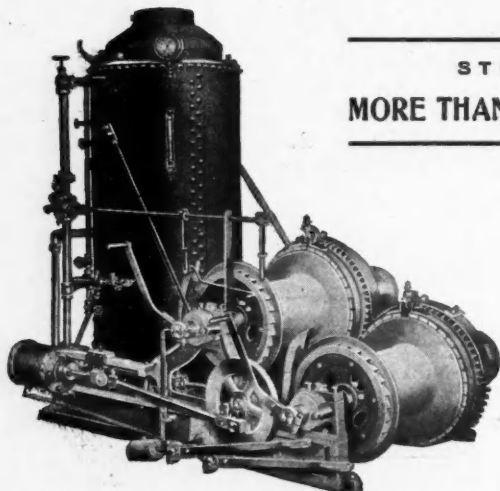
Railway Exchange, CHICAGO, ILL.

Birmingham, Ala.
Butte, Mont.
Claremont, N. H.
Cobalt, Ont.
Denver, Colo.
El Paso

Joplin, Me.
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New York
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Pittsburg
Rossland

Salt Lake
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St. Louis
Seattle
Spokane
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Lidgerwood Hoisting Engines



LIDGERWOOD STANDARD CONTRACTOR'S HOIST

STEAM AND ELECTRIC

MORE THAN 300 REGULAR STYLES and SIZES

All made by the duplicate part system, and contain many **Special Features** which commend them to the operator and owner because of their ease and facility of operation.

PATENT CORK INSERT FRICTIONS

Special Hoists for Mines, Quarries, Car Hauling, etc., up to 1,000 H. P., built to order.

Lidgerwood Mfg. Co., 96 Liberty St., New York, N. Y.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

The Slogan of the Cameron—"Character: The Grandest Thing."

CAMERON PUMPS

Are Economical in the use of Compressed Air, and are also equally efficient with Compressed Air as with Steam, because

There is little leakage on account of the small clearances. Every particle of compressed air or steam, whichever used for power, is utilized.

They cannot exhaust the steam or air from behind the piston before the piston has reached the end of its stroke and pushed back the reversing lever.

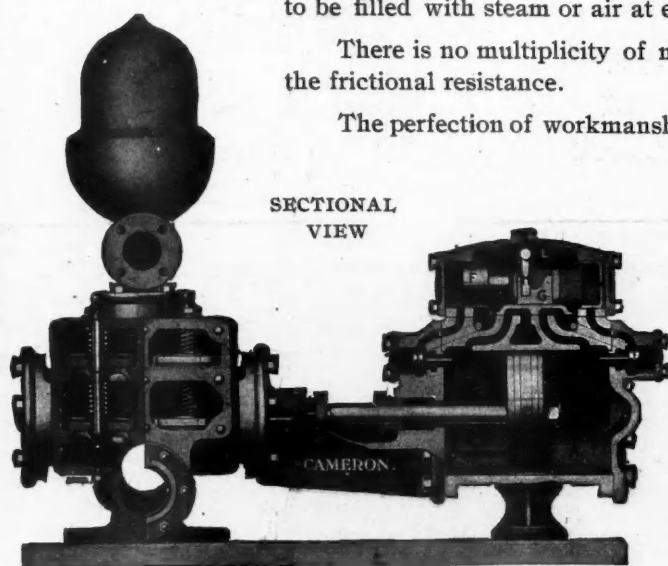
The parts are properly proportioned and the least possible loss ensues from wire drawing.

There is only one port at each end of the cylinder to be filled with steam or air at each stroke.

There is no multiplicity of moving parts to add to the frictional resistance.

The perfection of workmanship of parts that should fit, and their perfect alignment, are assured.

The water end having large valve area and direct passages, offers the least possible resistance to the passage of the water, thus minimizing the frictional resistance which would waste the power derived from the steam.



Our Catalog Edition "K" contains much valuable data and information; a ready reference for every mine office, and is sent only on request to those who are interested.

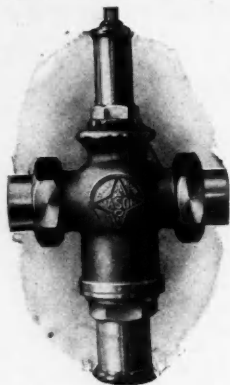
A. S. Cameron Steam Pump Works
Foot of East Twenty-Third St. New York

"NOTE—We also build Jet, Surface and Barometric Condensers, and desire to bid upon them."

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

MASON Reducing Valves

ARE THE WORLD'S STANDARD



Will reduce and
maintain an even
pressure of

**Steam,
Air
or
Water**

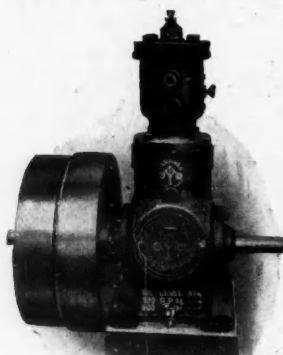
WRITE FOR NEW CATALOGUE

Mason Regulator Co.

Boston, Mass., U. S. A.

The Gardner-Rix Vertical High Speed Air Compressor

Is something new. Enclosed, self-oiling.
Lubrication perfect, no lubricators or grease



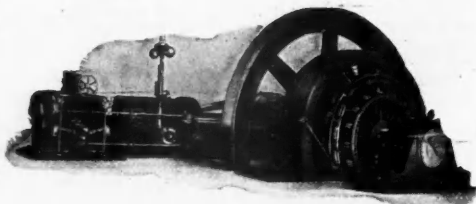
cups necessary.
No crossheads,
no stuffing boxes,
very simple, easy
to install, takes
up little space,
light weight and
good for heavy
pressures. Made
in sizes from 4 ft.
to 140 ft. capaci-
ties. Let us tell
you of the possi-
bilities of this
wonderful ma-
chine.

The Gardner Compressor Mfg. Co.

QUINCY, ILLINOIS.

THE COOPER CORLISS

ALL
SIZES AND
TYPES



WRITE FOR
OUR
BOOKLET

BUILT BY

The C. & G. Cooper Co.

Home Office and Works — MT. VERNON, Ohio

BRANCH OFFICES:

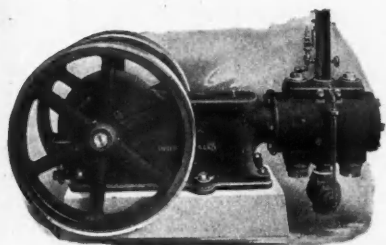
NEW YORK, 1419 Bowling Green Building
BOSTON, 411 Weld Building
PHILADELPHIA, Drexel Building

CHICAGO, 1539 First National Bank Building

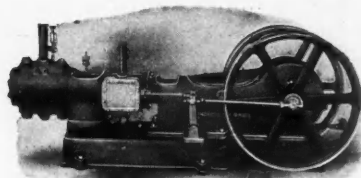
CHARLOTTE, N. C., Court House Square
PITTSBURGH, 604 Frick Building
ATLANTA, 310 Candler Building

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

Ingersoll-Rand Co.



CLASS "NE-1" POWER DRIVEN



CLASS "NF-1" STEAM DRIVEN

Small Air Compressors

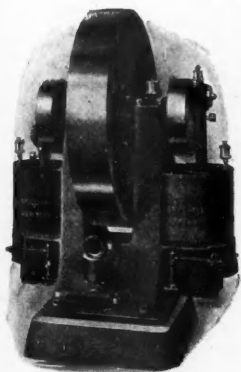
Horizontal or vertical types driven by steam, belt, gear, chain or direct motor connected.

Specially suited for shops, foundries, mills, power plants, garages, etc.

A large assortment of sizes, built for all pressures.

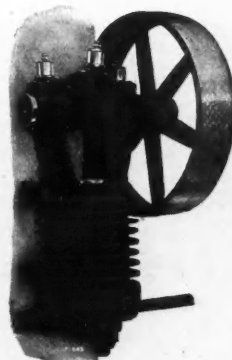
Strong and compact, simple, efficient and durable.

Splash lubrication, automatic regulation, oil treatment of parts. All that is best in design, material and workmanship.



"IMPERIAL XI" POWER DRIVEN

New Price List
attractive to customers
Just Issued.



"IMPERIAL BABY" POWER DRIVEN

Chicago
Cleveland
Birmingham
Montreal
London

Philadelphia
Houghton, Mich.
San Francisco
Vancouver
Dusseldorf

11 Broadway, NEW YORK

Butte
Toronto
Paris

Seattle
Kenora
Budapest

Denver
Halifax
Kalgoorlie

St. Louis
Pittsburg
Los Angeles
Rossland, B. C.
Johannesburg

El Paso
Boston
Salt Lake
Mexico City
Melbourne

U-11

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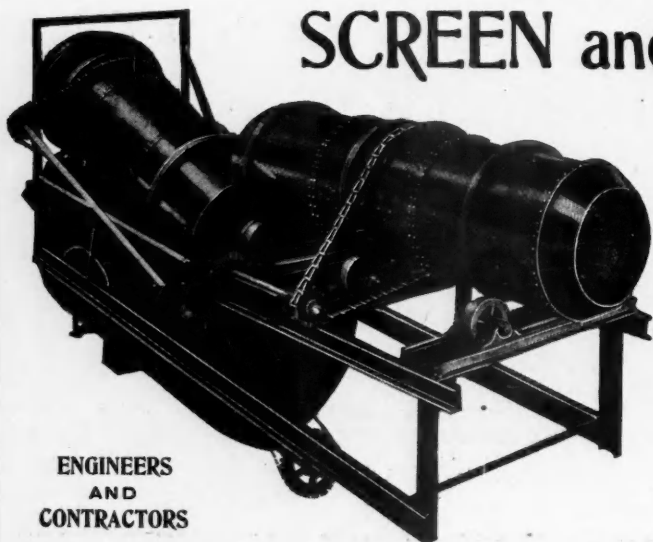
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Clean-Washed Material Permits Accurate Sorting

The "CRANE"

SCREEN and WASHER



ENGINEERS
AND
CONTRACTORS

COLLECTS

Rich "Fines" by Screening
Rich "Slimes" by Washing
Rich "Lumps" by Picking

Complete Plants for Con-
centration, Cyaniding, Chlor-
ination and Smelting of Ores.

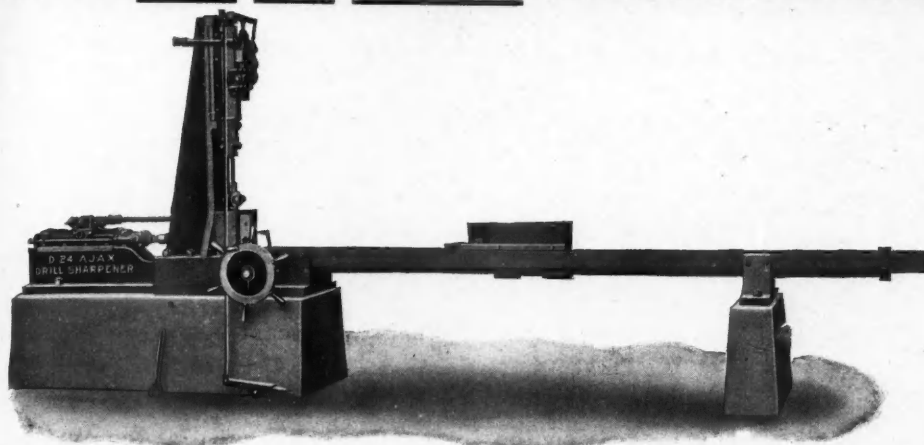
Stearns = Roger

Mfg. Co.

1718 California St.,
DENVER, - COLO.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

WHY ARE "AJAX" DRILL SHARPENERS SUPERIOR TO ALL OTHERS?



BECAUSE—

They use Ingersoll-Rand Drills for hammers, making it possible to secure duplicate parts of these most important features *anywhere*.

All parts are made much heavier than even the most severe stresses upon them require.

The dies and dolly are much larger, insuring long life and low cost of renewal.

Mfg. by T. H. PROSKE,
Denver, Colo.

BECAUSE—

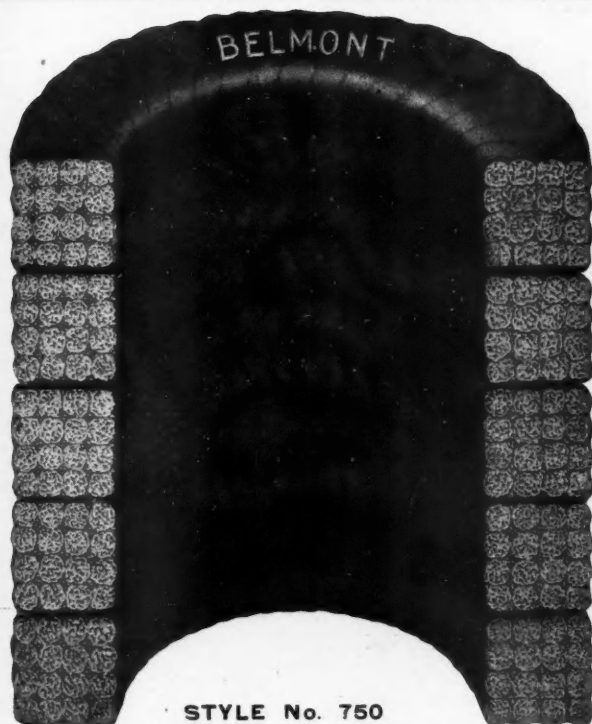
They can be operated either as right or left-handed machines—an exclusive "Ajax" feature.

They use no power when not actually sharpening drills.

They will sharpen drills faster and better than any other known way.

They are more economical in operation and upkeep, and will outlast any other sharpener.

Sold by INGERSOLL-RAND CO.
All over the world.



BELMONT

Air Compressor and High Pressure Steam Packing.

Made expressly for
AIR COMPRESSORS.

Will withstand the extreme dry heat of **Compressed Air** and give excellent service on **Dry Steam, etc.**

Write for sample.

MANUFACTURED BY
CLEMENT RESTEIN CO.,
133-139 N. 2nd St.,
PHILADELPHIA, PA., U. S. A.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

TRADE



MARK

"SWANOLEINE" AIR CYLINDER OIL

A highly efficient and reliable lubricant for
Air Compressor Cylinders
manufactured especially for this purpose.

This oil has been in use on the Air Compressors located at the Hudson River Siphon of the Catskill Aqueduct for several months, giving perfect satisfaction and showing no deposit of carbon.

MANUFACTURED BY

Alden S. Swan & Co.

WORKS,
ELIZABETHPORT,
N. J.

138 Front Street
NEW YORK

CABLE
ADDRESS
"DENSWAN"

The Republic Rubber Co.

Manufacturers of

High Grade Hose

for Steam, Air Drill, Suction, Water, etc.

Rubber Belting and Valves

FACTORIES

YOUNGSTOWN, Ohio

BRANCHES

NEW YORK



CHICAGO



ST. LOUIS

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

PORTER COMPRESSED AIR MINE AND INDUSTRIAL HAULAGE



More Up-to-Date, Safer, Handier and More Reliable and Economical Than Electricity

We introduced the first air haulage into anthracite mines, and have installed about 80 per cent. of the air locomotives in America and the majority of those in the world. We can refer to a large number of plants with one to fifteen locomotives, track gauges 18 to 56½ inches. Our designs are automatic, easily controlled and free from complications.

Tenth edition catalogue, just printed, mailed free to mine, railway or industrial officials; or to others on receipt of 50 cents.

Address **H. K. PORTER COMPANY, 1207 Union Bank Bldg., Pittsburg, Pa.**

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

LOCOMOTIVES

of Every Description



COMPRESSED-AIR LOCOMOTIVES

for Mine and Industrial Service

Burnham, Williams & Co. Philadelphia, Pa., U.S.A.

Cable Address—"BALDWIN PHILADELPHIA"

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

Machinery Manufacturers cannot cover the Coal Mining Industry
thoroughly without using the advertising columns of

NEW YORK :

42 Broadway.

PITTSBURG :

Commonwealth Bldg.



CHICAGO :

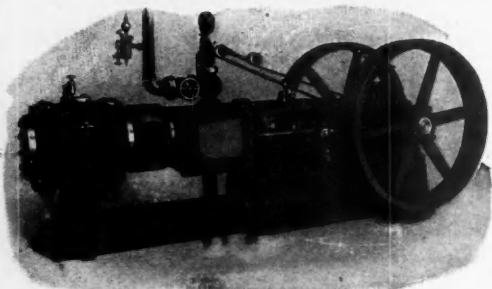
Old Colony Building.

CINCINNATI :

117 East Seventh Street.

For more than 20 years the Coal Trade's Leading Journal.

AIR COMPRESSORS



CLASS B. S. 14X14X14 STEAM DRIVEN.

Cut shows our new type of Single Steam Driven Air Compressor, Bored Guide Type, with deep heavy Subbase, Cylinders directly supported, Balanced Crank, making an entirely self-contained unit; will operate equally as well on timber cribbing as on Concrete Foundation.

The Modern Straight-Line Compressor.

Bury Compressor Co.

Send for Catalogues.

ERIE, PA.

Drexel Bldg., Phila. 39 Cortlandt. St., N.Y.

CLASSIFIED BUYERS' GUIDE

Air Cylinder Oil.

Atlantic Refining Co.
Borne, Scrymser Co.
Continental Oil Co.
Fiske Bros' Refining Co.
Galigher Machinery Co.
Standard Oil Co.
Swan & Co., A. S.
Vacuum Oil Co.

Air Lift Pumps.

Curtis & Co., Mfg. Co.
Galigher Machinery Co.
Harris Air Pump Co.
Ingersoll-Rand Co.

McKiernan Drill Co.
Westinghouse Traction Brake Co.

Air Gauges.

Galigher Machinery Co.
McKiernan Drill Co.
Westinghouse Traction Brake Co.

Air Receivers.

American Diamond Sand Blast Co.
Baldwin Locomotive Works.
Bury Compressor Co.
Curtis & Co. Mfg. Co.
Gardner Compressor Mfg. Co.
Harris Air Pump Co.
Ingersoll-Rand Co.
McKiernan Drill Co.
Porter Co., H. K.
Stearns-Roger Mfg. Co.
Sullivan Machinery Co.
Westinghouse Traction Brake Co.

Air Tanks.

American Diamond Sand Blast Co.
Baldwin Locomotive Works.
Bury Compressor Co.
Galigher Machinery Co.
Harris Air Pump Co.
Ingersoll-Rand Co.
McKiernan Drill Co.
Porter Co., H. K.
Westinghouse Traction Brake Co.

Aftercoolers, Air.

Bury Compressor Co.
Galigher Machinery Co.
Ingersoll-Rand Co.
McKiernan Drill Co.
Porter Co., H. K.
Stearns-Roger Mfg. Co.
Sullivan Machinery Co.

Belting.

Republic Rubber Co.

Belt Dressings.

Jos. Dixon Crucible Co.

Blowers.

Cameron Steam Pump Works, A. S.
Galigher Machinery Co.

Blowing Engines.

Cooper Co., C. & G.
Galigher Machinery Co.
Ingersoll-Rand Co.
McKiernan Drill Co.

Brakes, Air.

Westinghouse Traction Brake Co.

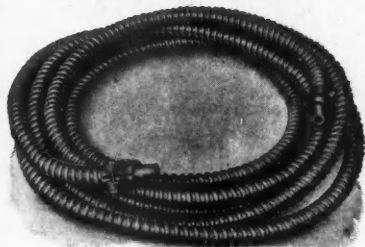
Channelers.

Galigher Machinery Co.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE

THERE IS AN AIR-HOSE THAT IS DURABLE

AND IT IS
SPRAGUE FLEXIBLE
STEEL ARMORED HOSE



It is superior to any other kind. One customer said: "It is so durable I will not live long enough to report how long it will last." Nearly two years later he wrote: "The reason why we have not ordered any more hose is owing to the fact that we have not been in need of any."

Does your hose wear like that?
Send for a copy of descriptive Bulletin No. 50746

SPRAGUE ELECTRIC COMPANY
527 West 34th Street, - NEW YORK CITY
Branch Offices in Principal Cities.

A Satisfactory Air Compressor

must be one that can be relied upon to do its full duty, day in and day out, with practically no attention, and this is one of the more important features embodied in the design of Westinghouse Compressors, an occasional cleaning and oiling being all that is required to keep them in daily operation in all kinds of severe, rough service. We make Belt, Motor and Steam-Driven Air Compressors for all industrial purposes.

See our Compressor Booklet 9001

Westinghouse Traction Brake Co.

General Offices and Works, Wilmerding, Pa.

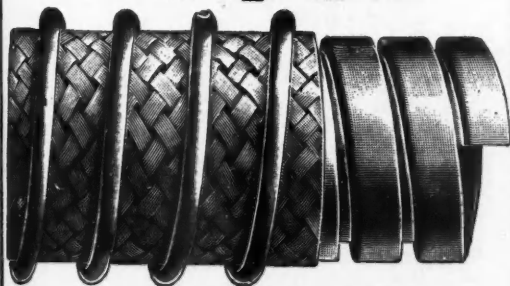
NEW YORK—City Investing Bldg.

CHICAGO—Railway Exchange Bldg.

ST. LOUIS—1932 North Broadway

The American Metal Hose Company

173-177 Lafayette Street
New York



The wonderful efficiency and economy of FLEXIBLE METAL HOSE for Steam, Oil, Compressed Air, etc., is a subject which should be carefully investigated by every user of Hose.

SEND FOR DESCRIPTIVE CATALOG A

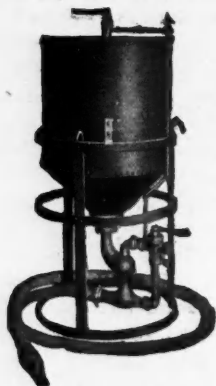
- Ingersoll-Rand Co.
- Stearns-Roger Mfg. Co.
- Sullivan Machinery Co.
- Charging Stations.**
- Baldwin Locomotive Works.
- Porter Co., H. K.
- Coal Cutters.**
- Galigher Machinery Co.
- Ingersoll-Rand Co.
- McKiernan Drill Co.
- Stearns-Roger Mfg. Co.
- Sullivan Machinery Co.
- Coal and Ore Elevator Buckets.**
- Clark Co., W. J.
- Galigher Machinery Co.
- Compressors, Air and Gas.**
- Bury Compressor Co.
- Curtis & Co. Mfg. Co.
- Galigher Machinery Co.
- Gardner Compressor Mfg. Co.
- Harris Air Pump Co.
- Ingersoll-Rand Co.
- McKiernan Drill Co.
- Powell Co., Wm.
- Stearns-Roger Mfg. Co.
- Sullivan Machinery Co.
- Westinghouse Traction Brake Co.
- Compressor Fittings, Air and Gas.**
- Galigher Machinery Co.
- Gardner Compressor Mfg. Co.
- Mason Regulator Co.
- Powell Co., Wm.
- Republic Rubber Co.
- Compressor Regulators**
- Gardner Compressor Mfg. Co.
- Mason Regulator Co.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.

The Injector Sand Blast

APPARATUS

CLEANS CONCRETE, STEEL STRUCTURES
AND CASTINGS.



MADE BY

C. DRUCKLIEB, 132 Reade St., New York.

WRITE FOR "SANDBLAST."

Sales Agents: Manning, Maxwell & Moore, Inc., New York, for Railroad Service. E. A. Kinsey Co., Cincinnati, Ohio. The Fairbanks Co., New Orleans, La. Harron, Rickard & McCone, Inc., San Francisco and Los Angeles, Cal. Corby Supply Co., St. Louis, Mo. Central Foundry Supply Co., Columbus, O. The Caldwell Bros. Co., Seattle, Wash. Canadian Sand Co., Montreal and Toronto, Canada. Fenwick, Freres & Co., Paris, France. Consolidated Pneumatic Tool Co., London, Eng. Pneumatic Tool Co., St. Petersburg, Russia.



SAND BLAST

For sand blasting
on buildings,
bridges, tunnels,
concrete surfaces,
wood, glass.

For cutting out
letters on monu-
mental stones.

WRITE FOR
DETAILS.

AMERICAN DIAMOND BLAST COMPANY

MECHANICAL DEPARTMENT, 50 CHURCH ST., NEW YORK CITY
Sales agents for foundry trade, T. W. Pangborn Co., N. Y.

WHY NOT USE THE POWELL Air Gun Valve



Blows your work bench, machine tool, in fact everything, perfectly clean. Operation is another case of "Press The Button." Order a sample.

The Wm. Powell Co., Cincinnati, O.

Core Drills, Diamond.

Sullivan Machinery Co.

Core Drills, Diamondless.

Galigher Machinery Co.

Ingersoll-Rand Co.

Stearns-Roger Mfg. Co.

Sullivan Machinery Co.

Corliss Engines.

Cooper Co., C. & G.

Galigher Machinery Co.

Sullivan Machinery Co.

Drilling Machines, Pneumatic.

Galigher Machinery Co.

Ingersoll-Rand Co.

McKiernan Drill Co.

Stearns-Roger Mfg. Co.

Sullivan Machinery Co.

Drill Sharpeners

Ingersoll-Rand Co.

T. H. Proske.

Electro-Pneumatic Machinery.

Galigher Machinery Co.

Ingersoll-Rand Co.

Stearns-Roger Mfg. Co.

Engine Room Appliances.

Galigher Machinery Co.

Fans, Ventilating.

Galigher Machinery Co.

Sullivan Machinery Co.

Foundry Appliances.

Curtis & Co. Mfg. Co.

Ingersoll-Rand Co.

Foundry Facings.

Jos. Dixon Crucible Co.

Graphite Commutator Brushes.

Jos. Dixon Crucible Co.

Graphite Crucibles and Retorts.

Jos. Dixon Crucible Co.

Graphite Greases.

Galigher Machinery Co.

Jos. Dixon Crucible Co.

Graphite Paint.

Galigher Machinery Co.

Jos. Dixon Crucible Co.

Hammer Drills.

Galigher Machinery Co.

Ingersoll-Rand Co.

McKiernan Drill Co.

Stearns-Roger Mfg. Co.

Sullivan Machinery Co.

Hammers, Calking and Chipping.

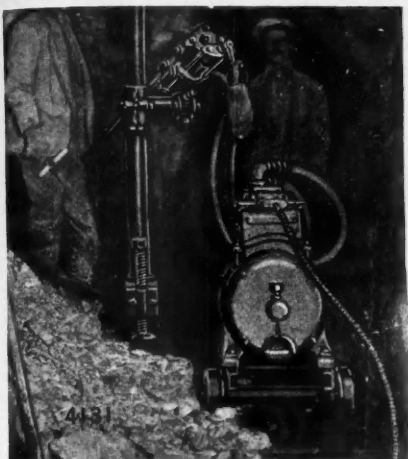
Galigher Machinery Co.

Ingersoll-Rand Co.

Oldham & Sons Co., Geo.

Stearns-Roger Mfg. Co.

Tell the Advertiser You Saw His Ad. in COMPRESSED AIR MAGAZINE.



Driving a Tunnel with the "Electric-Air" Drill.

"ELECTRIC-AIR" ROCK DRILLS

The only commercially successful electric driven rock drill on the market, thoroughly practical and in every way comparable with the standard rock drill.

Combining the capacity and endurance of the standard air drill with the economy and convenience of electric transmission.

Built in three sizes, adapted to all mining and contracting conditions and to work of every character.

More than six hundred in use all over the world, the great Homestake Mine using sixteen of them.

ROCK DRILLS

HAMMER DRILLS

CORE DRILLS

COMPRESSORS

PNEUMATIC TOOLS

INGERSOLL-RAND COMPANY

NEW YORK

LONDON

Chicago
Boston
Denver
Mexico
Philadelphia

Birmingham
San Francisco
Valparaiso
Shanghai
Cleveland

Pittsburg
Los Angeles
Lima
Yokohama
Budapest

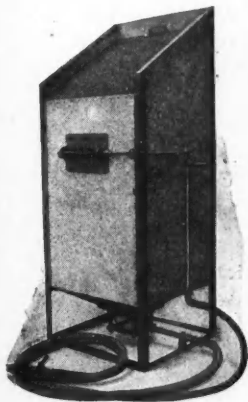
Paris
Kobe
St. Louis
Houghton
Vancouver

Dusseldorf
Honolulu
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Melbourne
El Paso
Salt Lake
Toronto
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U-118

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Automatically screens the sand and removes the dust. Requires absolutely less sand, power, labor or repairs and does more work than any competing make. High priced sand blast hose not needed and hose can never become choked. Operator need not stop work during time hopper is being filled.

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Mining and Scientific Press

Controlled by T. A. RICKARD

Associate Editors { COURTENAY DE KALB
H. FOSTER BAIN

ESTABLISHED 1860

PUBLISHED WEEKLY

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Pumps, Air.

Cameron Steam Pump Works, A. S.
Galigher Machinery Co.
Harris Air Pump Co.
Ingersoll-Rand Co.
McKiernan Drill Co.
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Westinghouse Traction Brake Co.

Pumps, Pneumatic Displacement.

Galigher Machinery Co.
Harris Air Pump Co.
Ingersoll-Rand Co.
McKiernan Drill Co.
Stearns-Roger Mfg. Co.
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Pumps, Steam.

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Galigher Machinery Co.
Stearns-Roger Mfg. Co.
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Bury Compressor Co.
Blaisdell Machinery Co.
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Ingersoll-Rand Co.
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Sand Blast Machinery.

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Ingersoll-Rand Co.
McKiernan Drill Co.
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Pneumatic Tool Hose.

Stacey Stop-Cocks

Stacey Steel Hose Nipples

OUR GOODS ARE WHAT YOU WANT.

THEY WILL GIVE YOU THE RESULTS YOU ARE STRIVING TO OBTAIN.

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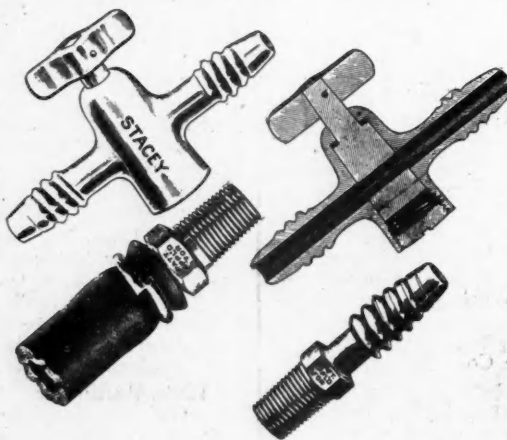
$\frac{1}{2}$ in. in dozen lots, including springs, \$3.50.

Less than one dozen at a time, including springs, each 35c.

STACEY STOP-COCKS

$\frac{3}{8}$ in. Stacey Stop-Cocks, 60c. each; \$6.00 per dozen.

$\frac{1}{2}$ in. Stacey Stop-Cocks, 75c. each; \$8.00 per dozen.



The Stacey Stop-Cocks never require adjustment.

Our **Pneumatic Tool Hose** is of the highest possible quality. It is without a question the best pneumatic tool hose on the market to-day.

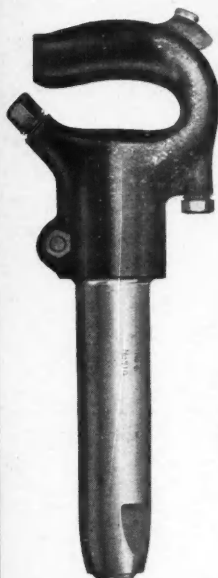
We take this opportunity of thanking our patrons all over this great country for their valued business during the year, and wish to extend to one and all our very best wishes for a Happy and Prosperous New Year.

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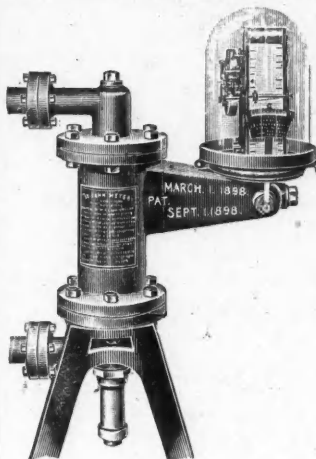
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Measures
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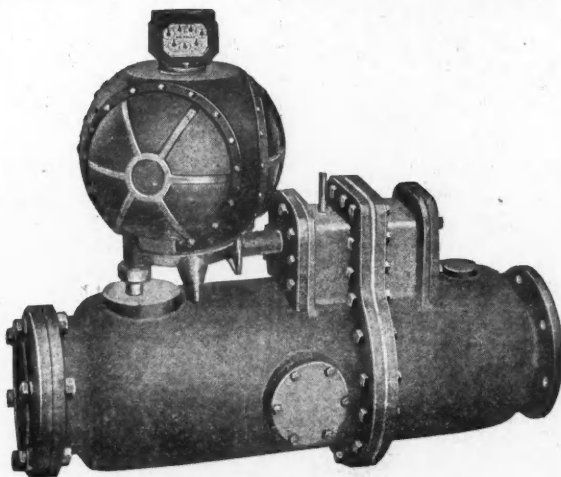
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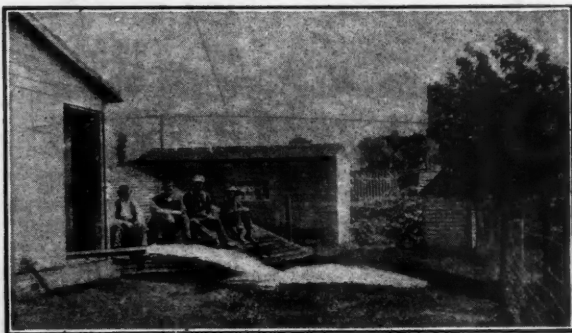
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Volume up
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cubic feet
per hour



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Install a

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Easy to operate. Nothing to wear out.

Write for Catalogue.

Harris Air Pump Co.

10TH STREET AND CANAL
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You've got to use some lubricant. Then isn't a little investigation worth while?

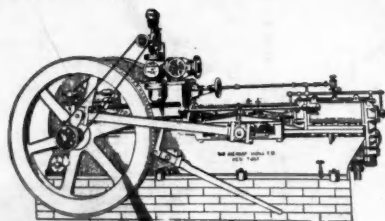
¶ Dixon's Flake Graphite does what no other lubricant can do.

¶ It absolutely prevents abrasion, successfully withstands intense heat and freezing cold, remains unchanged by acids or alkalies.

¶ Isn't this lubricant worth a free trial?

¶ Write us.

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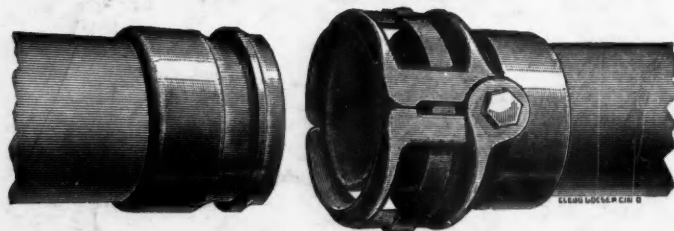
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FIRE HOSE READY TO PUSH TOGETHER.

is a time-saver on any kind of hose; is ideal in action, coupled by pushing the parts together, and easing the hose by the swiveling of one half of the coupler on the other.

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